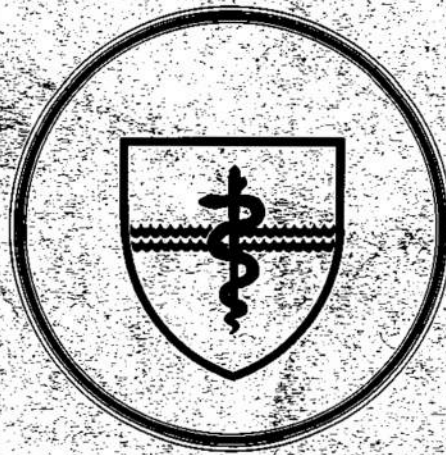# NAVAL SUBMARINE MEDICAL RESEARCH LABORATORY

SUBMARINE BASE, GROTON, CONN.

REPORT NUMBER 964

THE OBSERVATION OF PSYCHOPATHOLOGY:
THE PERFORMANCE OF CORPSMEN COMPARED TO EXPERIENCED CLINICIANS

by

Karen D. ROBINSON, George MOELLER, and Bernard L. RYACK

Released by:

W. C. MILROY, CAPT, MC, USN
Commanding Officer
Naval Submarine Medical Research Laboratory

1 April 1983

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SUMMARY PAGE

THE PROBLEM

To investigate the skill of Navy Hospital Corpsmen in observing
behaviors that are indicative of psychopathology.

FINDINGS

Corpsmen were accurate in their observation of objective kinds of
behavior; they were not as accurate on behaviors which require inferential
judgments. The corpsmen view patients as more normal than do the experts,
but their perceptions are strongly related.

APPLICATIONS

This study provides information regarding the Corpsman's ability to
identify behaviors. Information on these kinds of behavior are necessary
to make judgments about a person's mental health status.

ABSTRACT

As the sole member of the medical department, corpsmen aboard submarines may be called on to make decisions about the advisability of treatment, or evacuation of crewmembers who appear to be suffering from behavioral disorders. This study investigates the corpsmen's skill in observing behaviors that are indicative of psychopathology. Twenty corpsmen watched videotaped interviews with 12 psychiatric patients and rated the patients on 10 categories of behavior and on their overall level of mental health. The corpsmen's responses were compared to those made by a group of experienced psychiatrists and psychologists. There was a relatively high level of agreement between the judgments of the corpsmen and those of the experts. Accuracy (agreement between the corpsmen and experts) was found to be highest for behaviors determined to be absent by the consensus of the experts (92%), although it was still quite impressive for behaviors judged to be present (61%). Accuracy differed among the 10 categories of behavior that were examined. The corpsmen's judgments were most accurate on the more overt, objective behavior categories, such as motor activity and vocal tone. It dropped significantly for categories requiring more subjective judgments, such as verbal content and thought content. While the corpsmen's perception of the patient's overall level of mental health was strongly related to that of the experts, the corpsmen evaluated each of the patients as more normal than did the experts. The kinds of error made by the corpsmen suggest that they underestimate the presence of abnormality in patients.

THE OBSERVATION OF PSYCHOPATHOLOGY:
THE PERFORMANCE OF CORPSMEN COMPARED TO EXPERIENCED CLINICIANS

While clinicians can often reach fair to good agreement when they classify people according to a few major diagnostic categories, their accuracy is greatly diminished for diagnostic sub-types. Ash, in 1949, reported that agreement between psychiatrists ranged from 46% - 67% for cases diagnosed according to five major classifications (mental deficiency, psychosis, neurosis, etc.). However, for more specific categories, agreement ranged only from 20% - 44%. Schmidt and Fonda (1956) found that pairs of judges agreed on 84% of the cases when patients were classified according to three major groups: organic, psychotic, and characterological. However, as with the study by Ash, the clinician's accuracy for sub-types was only about half his accuracy for more general diagnostic classifications. Unfortunately, training the diagnostician does not always improve his clinical performance. Goldberg (1968) cites a number of reports where no relationship was found between level of professional training or experience and accuracy of judgment.

It has been suggested that the person untrained in the field of clinical psychology can be as accurate as the professional in predicting behavior (Crow, 1957; Goldberg, 1959; Lasky, et al, 1959). The present study investigates this hypothesis for one such group, Navy corpsmen, who can be considered to be "unskilled" or "untrained" in the management of behavioral disorders. While the corpsman receives approximately 19 months of medical training, only 28 hours of course work are devoted to the diagnosis and treatment of behavioral disorders and no time is allocated to practical training in this area. This is slightly less on classroom time than is allotted to an undergraduate course in abnormal psychology. Nevertheless, the corpsman aboard the submarine must be able to make judgments about the mental health of crewmembers.

The submarine corpsman's ability to diagnose medical problems has been studied (Ryack, et al, 1979), but no attention has been given to his ability to handle behavioral disorders. This investigation examines the corpsman's skill, as a relatively untrained diagnostician, to observe behaviors that may be indicative of psychopathology. In addition, it looks at the corpsman's perception of a patient's overall level of mental health and determines which behaviors contribute most to his rating of health. In order to obtain an estimate of his diagnostic strengths and weaknesses, the corpsman's observations and ratings are compared to those of an expert panel, composed of psychologists and psychiatrists.

METHOD

Subjects

Twenty corpsmen, three
clinical psychologists, and
one psychiatrist participated
in the study. The corpsmen
served as subjects and the
"experts" (psychologists and
psychiatrists) provided the
criterion data. The experts
were practicing in the New
London, Connecticut, area.
All corpsmen were undergoing
training at the Naval Undersea
Medical Institute, Groton,
Connecticut. Eight corpsmen
had completed a 28-hour Navy
course in psychology; three had
taken psychology classes in
college and had clinical
psychiatric experience but
no classroom training (6 months
for one, and two years for the
other). The range of clinical
experience consisted of
volunteer work on a hotline
(1 man), employment as a
psychiatric aid (3 men), and
performing psychiatric
screenings on patients who
were referred for psychiatric
evaluation (1 man). The
remaining seven corpsmen had
no formal training or clinical
experience in the diagnosis
or treatment of behavioral
disorders.

Materials

Nine videotapes, produced
by J. F. Seuss (1973) as a
self-instructional program for
medical students in a freshman
psychiatry course, were
obtained from the National

Medical Audiovisual Center,
Atlanta, Georgia. Each tape
consisted of a short lecture,
which was followed by a series
of psychiatric interviews between
a therapist and a patient. The
interviews were conducted within
the first 72 hours of the patient's
admission to a psychiatric hospital.
A panel of four psychiatrists and
four psychologists chosen by
Seuss observed each of the taped
interviews and rated them for the
presence of potentially diagnostic
behaviors. None of the judges
had prior contact with any patient,
and an 85% level of agreement
among the experts served as the
criterion of the presence of a
behavior.

For this study, 12 interviews
were selected from the Seuss Tapes
and transcribed to a single video-
tape. No lecture material was
included on the videotape. Each
interview lasted approximately
three minutes. The interviews
portrayed a wide range of
behaviors, but certain classes of
disorders, e.g., organic, were
excluded because it was felt that
they were not likely to be found
on the submarine. Six of the
patients were taking no medications;
the remaining six were receiving
either a major tranquilizer or an
anti-depressant.

Procedure

Corpsmen watched the videotaped
patient interviews in groups of four.
Immediately after each interview,
the corpsmen were asked to respond
to an eleven-item questionnaire.
The items shown in Table 1 were
based on an observation sheet

employed by Seuss and assessed 10 categories of behavior: demeanor, behavior toward the examiner, abnormal behaviors, form of speech, thought content, motor activity, vocal tone, verbal content, affective state, and prevailing mood. Written definitions were provided for two of the items, form of speech and thought content. The eleventh item was a six-point scale for rating the patient's level of functioning from "abnormal, exhibits a severe emotional problem" to "normal, well-adjusted." The subjects were told:

> "Each of the questions concerns behaviors, facial expressions and mood expressed by the patient during the interview... When the interview is completed, respond to each one of the questions. In some instances you may feel there is more than one possible answer. Pick those responses which you believe best describe the patient... This is not a test. In responding to the questions, there is no right or wrong answer."

The experts individually watched the videotaped interviews. Each expert received the same instructions as the corpsmen. The responses of the four experts were subsequently combined with the judgments of Seuss's panel; these judgments were treated as the responses of a fifth, single expert. The consensus of the experts on each item formed the criteria against which the corpsmen's performance was compared. In most instances, consensus is defined as agreement among four of the five experts. However, Seuss's panel did not reach a consensus on all items and on these, agreement among at least three of the four individual experts constituted a consensus.

RESULTS

Experts' judgments

Over the 12 interviews, the questionnaire provided a total of 636 possible response alternatives (12 interviews x 53 responses/ interview). The experts reached a consensus in 83 instances that a behavior was present in the patient interview; these are shown in the 'behavior present' column of Table 1. In an additional 334 instances, the experts were in agreement that a behavior was absent. The experts did not explicitly record on the questionnaire those behaviors they saw as absent in the interview; a behavior was so classified only if all the experts failed to mark it as present. These behaviors are noted in the 'behavior absent' column of Table 1.

The 'behavior present' column of Table 1 shows that the experts found 37 of the 53 behaviors present in one or more of the interviews (37 behaviors, a total of 83 observations). The 37 behaviors included 30 abnormal behaviors, 5 normal behaviors (marked 'N' in Table 1), and 2

Table 1
Questionnaire used by Experts and Corpsmen to Evaluate Patients and Frequency of
Agreement Among Experts on the Presence and Absence of Behaviors in the 12 Interviews

BEHAVIOR

Absent	Present		
		1.	The DEMEANOR of this person suggests:
8	2	A.	Sadness
8	1	B.	Anger
2	2	C.	Perplexity
2	1	D.	Anxiety
6	3	E.	Suspicion
9	1	F.	None of the above
		2.	The BEHAVIOR TOWARD THE EXAMINER can be described as:
1	5	(N)A.	Cooperative
5	1	B.	Apathetic, Detached (showing little feeling or emotion)
7	1	C.	Suspicious
10	1	D.	Aggressive, Antagonistic, Defiant
8	1	E.	Attention Seeking (Exaggerated Behavior)
12	–	F.	None of the above
		3.	Does the person exhibit any of the following ABNORMAL BEHAVIORS:
11	–	A.	Tics
4	1	B.	Repetitive behaviors: Mannerisms, Compulsions, etc.
7	–	C.	Facial grimacing
11	–	D.	Hallucinations
–	5	E.	None of the above
		4.	The FORM OF the patient's SPEECH demonstrates:
1	8	(N)A.	Logical sentences and speech sequences
6	2	B.	Flight of ideas
6	–	C.	Association disorder
		5.	The CONTENT of the patient's THOUGHT indicates:
10	1	A.	Grandiose delusions
4	3	B.	Persecutory delusions
9	–	C.	Depressive delusions
7	1	D.	Delusions of being influenced
2	–	E.	Obsessive ideas
5	2	F.	Intellectualization
5	–	G.	None of the above

Table 1 cont'd

BEHAVIOR

Absent	Present		
		6.	The level of MOTOR ACTIVITY can be described by which of the following
5	1	A.	Slow or retarded movement
12	–	B.	Fast or hyperactive movement
3	2	C.	Restless movement
9	–	D.	Agitated movement
1	1	(N)E.	Normal movement
		7.	The VOCAL TONE is:
4	7	(N)A.	Expressive (normal)
4	4	B.	Monotone
8	–	C.	Affected
		8.	The person's statements (his VERBAL CONTENT) indicate feelings of:
6	1	A.	Sadness
7	3	B.	Fear or anxiety
4	4	C.	Persecution
10	–	D.	Elation
8	1	E.	Anger
8	1	F.	Self-condemnation
1	2	G.	Preoccupation
10	–	H.	None of the above
		9.	The individual's method of expression in relation to their internal or external state (the person's AFFECTIVE STATE) can be best described as:
5	2	(N)A.	Normal and appropriate
8	1	B.	Inappropriate
5	4	C.	Flat or blunted
7	–	D.	Labile (readily changing)
		10.	The PREVAILING MOOD is one of:
5	2	A.	Depression
6	2	B.	Anxiety
10	1	C.	Elation
7	2	D.	Resentment, Anger
8	–	(N)E.	Normal (none dominant)
7	–	F.	Other

11. On the scale below, mark the location which you feel best describes this individual's level of functioning.

| 1 | 2 | 3 | 4 | 5 | 6 |

Abnormal, exhibits
a severe emotional
problem

Normal,
well-adjusted

Note: The behaviors underlined represent the subset of items used in the stepwise regression analysis to identify behaviors which best predicted the corpsmen's and expert's ratings of the patient's functioning level.

neutral behaviors, which referred
to the response alternative
'none of the above.' The
'behavior absent' column reveals
that 52 of the 53 behaviors were
absent in at least one interview.
These included 42 abnormal,
6 normal, and 4 neutral behaviors.

As instructed, the experts
sometimes marked more than one
behavior per question as present.
In most cases, however, they
acted as though the selection
of one response ruled out the
remainder for that question.
Given that fact, the two
columns of Table 1 tell some-
thing about: (1) the range
of behaviors presented by the
interviews, and (2) the kinds
of behaviors upon which the
experts consistently agreed or
disagreed. For example,
agreement regarding the patients'
demeanor (question 1) and verbal
content (question 8) varied
substantially from interview to
interview. Also, with the
exception of 'perplexity' and
'anxiety' (for demeanor), the
experts agreed for at least
9 of the 12 interviews in
their judgment that the
behavior was, or was not,
present. On the other hand,
the responses to question 3
(abnormal behaviors) imply
that the interviews did not
present a large sample of
these behaviors, and that
there was little agreement
among the experts on whether
or not certain of the behaviors,
e.g. mannerisms, appeared in
the interview.

Overall accuracy

Accuracy was defined as
agreement with the consensus of
the experts. The corpsmen's
accuracy was initially examined
only for behaviors that the
experts agreed were present;
behaviors that were absent were
not considered until later. The
accuracy of the corpsmen was well
above chance level. Over all
present behaviors, the mean
agreement with the experts was
61.1%. The mean accuracies for
abnormal, normal, and neutral
behaviors were 59.4%, 66.3%, and
56.7%, respectively.

Accuracy on behavior categories
and interviews

Mean accuracies across corpsmen
for each of the 10 categories of
behavior were: Thought content
(46.4%); Verbal content (50.8%);
Prevailing mood (52.9%);
Affective state (58.6%);
Abnormal behaviors (62.5%);
Demeanor (63.5%); Form of
speech (67.0%); Behavior toward
the examiner (67.8%); Motor
activity (71.3%); and Vocal tone
(73.0%). An analysis of variance
for repeated measures showed
that the corpsmen's accuracy
varied significantly among the
behavior categories (F (9, 171) =
5.42, p < .001). A Newman-Keuls
test revealed that the corpsmen's
judgments were significantly
less accurate for the more
subjective categories of thought
content, verbal content, pre-
vailing mood, and affective state
than for the remaining categories.
Among the remainder, the corpsmen
were most accurate in judging motor

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activity and tone.

The mean accuracy across corpsmen on each interview is shown in Figure 1. Accuracy ranged from a low of 45% on interview 8 to a high of 75% on interview 10. An analysis of variance for repeated measures showed that the corpsmen's performance on the 12 interviews differed significantly ($F(11, 209) = 9.25$, $p < .001$). A Newman-Keuls test showed that performance on the interviews was divided into two groups. The corpsmen's accuracy on interviews 10, 6, 1, 4, 11 (mean accuracy, 72%) differed significantly from that on the remaining seven interviews (mean accuracy, 54%). No common feature of the interviews, e.g. schizophrenia vs. others, could be found to characterize these two groups.

Type of error

The analyses so far have looked only at the agreement between a corpsman and the consensus of the experts that a behavior is present. They have not examined the agreement between the corpsman and the consensus of the experts that a behavior is absent (a second kind of accuracy), nor have they identified the kinds of mistakes the corpsmen are prone to make. To do this, each of the corpsman's responses were classified by interview as hits, misses, false positives and true negatives. Hits were defined as the behaviors which both the corpsman and the

consensus of experts identified; misses as behaviors which the consensus of the experts identified, but the corpsman failed to identify; false positives as behaviors which the experts selected as absent, but the corpsman saw as present; and true negatives as behaviors which both the experts and the corpsman agreed were absent. Means and standard deviations across corpsmen and interviews for hits, misses, false positives, and true negatives are shown in Table 2.

Phi correlations were computed to assess the agreement of each corpsman's responses with those of the experts. The median correlation for the 20 corpsmen was .58 with a semi-interquartile range of .07. Each of the correlations between the corpsman's and the experts' responses was significant at the $p < .001$ level.

Since the absence of behavior may be as crucial to diagnosis at it's presence, it is reasonable to consider both hits and true negatives in the calculation of the corpsmen's overall accuracy. T-tests for correlated measures were used to compare corpsmen accuracy with regard to abnormal and normal behavior. Corpsmen were more accurate in identifying the absence of behavior (92.4% accuracy) than it's presence (61.1%), ($t = 19.75$, df = 19, $p < .01$). As is evident from Table 2, this was true for both abnormal ($t = 20.01$, df = 19, $p < .001$) and normal behaviors ($t = 3.81$, df = 19, $p < .01$). Although there was no difference between the percentage of hits for the two kinds of
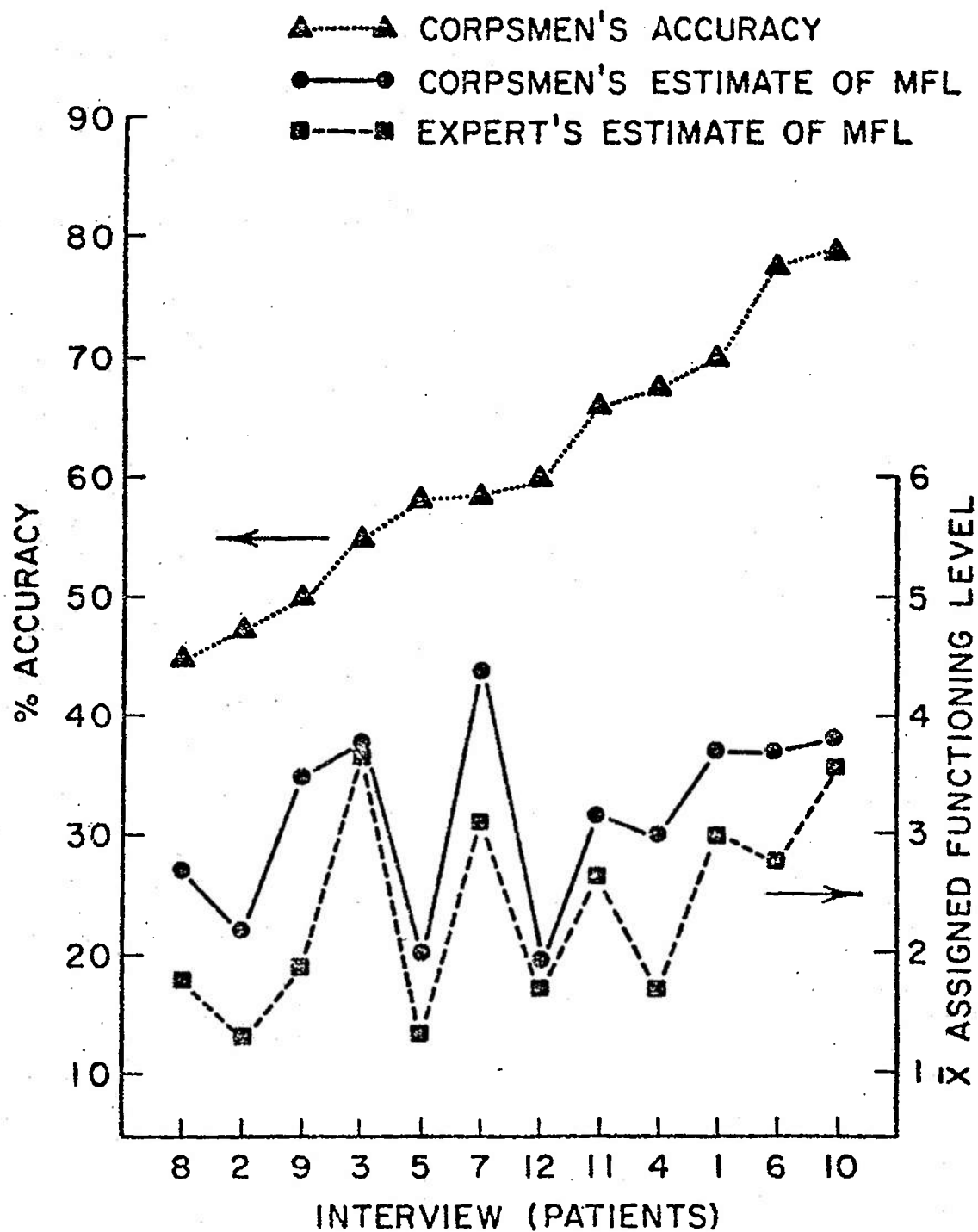
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Figure 1. Corpsmen's Mean Accuracy (Left Scale) on Each Patient and Mean Functioning Level (MFL, Right Scale) Assigned by Corpsmen and Experts on Each Patient.

Table 2

Average number of correct responses (hits and true negatives) and errors (misses and false positives) made by the corpsmen

		HITS	MISSES	FALSE POSITIVES	TRUE NEGATIVES
ALL BEHAVIORS	Mean	50.8	32.3	25.5	308.6
	Sd	6.7	6.7	5.7	5.7
	Percent (n)	61.1(83)	38.9(83)	7.6(334)	92.4(334)
ABNORMAL	Mean	32.1	21.9	18.9	259.1
	Sd	3.8	3.8	7.8	7.8
	Percent (n)	59.4(54)	40.6(54)	6.8(278)	93.2(278)
NORMAL	Mean	15.3	7.8	2.4	17.6
	Sd	4.6	4.6	1.7	1.7
	Percent (n)	66.3(23)	33.7(23)	12.0(20)	88.0(20)

NOTE: n = number of observations on which the experts reached a consensus

behaviors (t = 1.42, df = 19, ns), the percentage of true negatives was higher for abnormal behaviors (t = 2.24, df = 19, p < .05).

There are two types of errors the corpsmen might make - misses and false positives. The percentage of misses (38.9%) was greater than the percentage of false positives (7.6%), (t = 19.75, df = 19, p < .001). This was true for both abnormal (t = 20.01, df = 19, p < .001) and normal behaviors (t = 3.81, df = 19, p < .01). The percentage of misses was approximately the same for both kinds of behavior (t = 1.42, df = 19, ns), but the percentage of false positives was greater for normal than abnormal behaviors (t = 2.24, df = 19, p < .05).

In summary, the corpsmen identify the absence of behavior more accurately than its presence. The majority of errors result from a failure to identify a behavior that is present, as opposed to the identification of behavior not actually exhibited. In this sense, the corpsmen are fairly conservative observers. They are also conservative in that they are more likely to say a normal behavior is present when it is not, than that an abnormal behavior is present when it is not.

Rated level of functioning

Both corpsmen and experts rated the patient's level of functioning on a scale of 1 (abnormal, exhibits a severe emotional problem) to 6 (normal, well-adjusted). A t-test for correlated measures

which compared the average corpsman rating for an interview with the average expert rating showed the corpsman to judge the patient's level of functioning as more normal than the experts ($t = 4.37$, df = 11, $p < .001$); on the average, the corpsmen rated that patient about 3/4 of a point higher or more normal (Sd = .48) than the experts. Despite this difference, there is a strong correlation between the mean functioning level assigned by the corpsmen and that assigned by the experts ($r = .83$, $p < .001$; see Figure 1).

A stepwise regression analysis was used to identify behaviors which best predicted the corpsmen's and experts' ratings of the patient's functioning level. The aim here was to predict the mean rated functioning level assigned to the patient based on the percentages of corpsmen (in one analysis), and experts (in another), who saw a patient as showing a particular behavior. In this way, particular symptoms could be related to the overall judgment of health. Because of the large number of behaviors, a subset of 16 items, from the total of 53, was selected to use in this analysis (see Table 1). Although it is possible that one of the behaviors not included in the analysis contributed to the judgment of the patient's functioning level, this is unlikely as the behaviors chosen were those on which there was a high level of agreement among the experts, and the interviews

differed among themselves in the presence or absence of the behavior. The experts were found to use somewhat different behaviors from those used by the corpsmen in making their judgments of overall functioning. Four of the behaviors predict the experts' mean estimate of functioning level: normal and appropriate affect, fear or anxiety in verbal content, intellectualization in thought content, and prevailing mood of resentment or anger (Multiple $R = .99$, $F(4, 7) = 64.4$, $p < .01$). The corpsmen's estimate of functioning level is predictable from a single behavior: normal and appropriate affect ($r = .91$, $F(1,10) = 4.9$, $p < .01$).

DISCUSSION

The corpsmen's accuracy in recognizing behaviors the experts saw as present was 61%. This figure is impressive if it is kept in mind that the men were employing categories on which they were not previously trained. The use of these items requires a drawing of subtle distinctions and there is often disagreement among professionals who have years of training and experience. The overall mean accuracy of the individual expert in identifying responses selected by the consensus of his colleagues was 84%, and thus the difference in accuracy between the corpsmen and experts was, in fact, only 23%. Strong positive correlations between the corpsmen and experts on both the observation of behavior and ratings of the patients' functioning level provides additional support for regarding the corpsmen as accurate.

Performance differed significantly between interviews. Thirty-four percentage points separated the most accurate evaluation (Interview 10, 79%) from the least accurate (Interview 8, 45%). Differences in accuracy may be explained by the kind of behavior that the patient exhibits. Accuracy is lowest for categories that require discriminations involving underlying thought processes. The distinctions among different delusions (thought content), among feelings revealed by the patient's statements (verbal content), and among moods all require fine discriminations. These decisions are difficult for the expert to arrive at, and are made even more so by the brevity of the interview (approximately 3 minutes). Accuracy was highest for categories that require a decision based on observations that are more concretely and objectively defined (motor activity, vocal tone). These judgments are based on behavior for which ordinary experiences provide a relatively clear-cut norm, with deviations from that norm determining the patient's placement (e.g. retarded vs. normal movement; monotone vs. expressive vocal tone). These findings agree with those of Rosenberg, Glueck, and Stroebel (1967) who have reported that the objective, overt behaviors of patients can be accurately observed and recorded, while inferential aspects of the behavior are difficult to ascertain reliably.

In general, we found that the corpsmen see the patient as being healthier than the experts do. Three findings support this conclusion. First, although the percentages were small (Table 2), there were almost twice as many false positives for normal as compared to abnormal behaviors. Second, on each of the 12 patients, the corpsmen's average rating of the patient's level of functioning was higher or more normal than the rating assigned by the experts (Figure 1). And third, the relatively high incidence of misses (38.9%) as compared to false positives (7.6%) indicates that when errors occur they are caused by a failure to detect the behavior, rather than a tendency to over-diagnose or select behaviors which are not there. These findings suggest that the corpsmen underestimate abnormality in the patient.

The rating of functioning level was used as a measure of the patient's mental health. The corpsmen use fewer criteria than the experts to arrive at a judgment of functioning level. While the experts' ratings of health were based on four cues, the corpsmen use only one: normal and appropriate affect. For both the corpsmen and the experts, this cue contributed most to the judgment of functioning level. In addition to this cue, though, three others entered into the experts' judgments: fear or anxiety in verbal content, intellectualization in thought

content, and a prevailing mood of resentment or anger. These cues belong to categories on which the corpsmen showed the lowest accuracy (verbal content, thought content, and prevailing mood). It is possible that the corpsmen aware of their failure to make accurate judgments on these categories, did not feel confident to use them in their judgment of the patient's overall level of functioning. It is of interest, too, that regardless of the different criteria employed by the corpsmen and experts, their overall judgments of the patients' health are very strongly related.

In summary, the corpsmen's observations were found to be much more accurate than would be expected for people with their level of training in psychodiagnosis. The findings are in accord with the literature which suggests that the untrained individual can be as accurate as the professional in observing psychopathology. The corpsmen's accuracy ranges from 61% on behaviors that the consensus of experts agreed were present to 92% on behaviors that the experts found were absent. When errors occur, they result mostly from missing the presence of a behavior. The corpsmen are especially accurate on the more objective behavior categories, where agreement with the experts is about 72%. They are not so accurate on behaviors requiring more inferential judgments; accuracy in this instance is only about 50%. While the corpsmen tend to see the patient as somewhat too 'normal', their perception of the patient's level of health is strongly related to those of the experts.

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17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

18. SUPPLEMENTARY NOTES

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Psychiatric Diagnosis, Behavior Observation, Inexperienced Observers, Paramedics

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

As the sole member of the medical department, corpsmen aboard submarines may be called on to make decisions about the advisability of treatment, or evacuation, of crewmembers who appear to be suffering from behavioral disorders. This study investigates the corpsmen's skill in observing behaviors that are indicative of psychopathology. Twenty corpsmen watched videotaped interviews with 12 psychiatric patients and rated the patients on 10 categories of behavior and on their overall level of mental health. The corpsmen's responses were compared to those made by a group of experienced

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psychiatrists and psychologists. There was a relatively high level of agreement between the judgments of the corpsmen and those of the experts. Accuracy (agreement between the corpsmen and experts) was found to be highest for behaviors determined to be absent by the consensus of the experts (92%), although it was still quite impressive for behaviors judged to be present (61%). Accuracy differed among the 10 categories of behavior that were examined. The corpsmen's judgments were most accurate on the more overt, objective behavior categories, such as motor activity and vocal tone. It dropped significantly for categories requiring more subjective judgments, such as verbal content and thought content. While the corpsmen's perception of the patients' overall level of mental health was strongly related to that of the experts, the corpsmen evaluated each of the patients as more normal than did the experts. The kinds of error made by the corpsmen suggest that they underestimate the presence of abnormality in patients.